

Farm- and Forest-Related Value-Added Exports Boost the U.S. Economy

Value-added exports have an important impact on the U.S. economy that extends to many sectors. Exports by agricultural- and wood-based value-added industries supported an estimated 940,000 U.S. jobs in 1996. Each export dollar generated \$1.51 in supporting activity spread across all sectors of the economy.

Exports are a key to competitiveness for value-added firms and they support a considerable amount of economic activity in the United States. In 1996, the United States exported an estimated \$63.9 billion of value-added agricultural- and wood-based products, including \$21.7 billion of commodities from the food processing sector, \$13.8 billion of exports from lumber and wood manufacturing sectors, \$13.5 billion from paper and printing sectors, and \$8.2 billion of trade and transportation services to get exported goods from the processing plant to the port (table 1). Direct value-added exports generated an additional output of \$96.7 billion; therefore, each dollar received from value-added farm and forest exports stimulated an additional \$1.51 in supporting activities. The additional business activity attributable to high value exports was distributed across all economic sectors: 22 percent to farming, 37 percent to manufacturing, 5 percent to forest and agricultural services, 25 percent to other services, and 11 percent to wholesale and retail trade, and transportation. Value-added exports generated an estimated 940,400 full-time civilian jobs, including 116,200 or 3.4 percent of all jobs in the farm sector. Processors' purchases of raw and bulk commodities, fertilizer, and other backward-linked inputs to produce exported commodities spurred economic activity in the (mostly rural) farming and forest sectors and trade and transportation sectors.

Value-Added Exports Generate New Business, Add Jobs

The \$96.7 billion of supporting activities included \$21.4 billion from the farm sector. Because no direct exports from the farm sectors were included in this analysis, all of the output generated in the farm sector was in support of the processed or manufactured

Table 1

Economic activity supported by value-added agricultural and wood products by industry, 1996

Over 940,000 jobs are supported directly or indirectly by value-added exports

Industry	Exports	Supporting activity	Total activity	Income	Employment
	Million dollars				Number
Farming	0	21,363	21,363	8,164	116,156
Mining	0	2,165	2,165	1,370	6,940
Forestry, fishing, agricultural services	0	5,213	5,213	1,866	50,153
Food processing	21,671	7,077	28,746	5,896	86,279
Finished textiles	311	544	855	284	6,747
Leather	692	183	875	226	4,946
Tobacco	4,992	836	5,828	3,244	7,336
Lumber and wood products	12,334	6,483	18,817	6,060	119,966
Wood furniture ¹	1,488	-24	1,464	655	17,103
Paper	11,520	4,345	15,865	6,337	57,499
Printing and wood chemicals and fibers	2,053	733	2,786	1,337	20,928
Other manufacturing	666	15,460	16,126	6,480	75,984
Transportation	2,310	4,621	6,931	3,790	68,839
Wholesale and retail trade	5,897	6,574	12,471	8,766	124,581
Food service	0	554	554	288	14,006
Other services	0	20,522	20,522	11,528	162,991
Total	63,934	96,648	160,580	66,291	940,454

¹Negative supporting activity indicates that most wood furniture production is used as a final product and not as an intermediate input into other industries, which would stimulate added activity. Further, some demand is met by production from other industries and imports.

Source: Calculated by ERS from supporting ERS economic models using data from the Bureau of Economic Analysis, Bureau of Labor Statistics, and Bureau of the Census.

high-value exports. These exports also generated supporting activities worth \$2.1 billion in the mining sector, \$5.2 billion in the forest and agricultural services sectors, and \$20.9 billion from the service sectors (such as credit, banking, real estate, and computers). None of these sectors contributed any direct value-added exports. Nonfarm, nonforestry sectors of the economy received about 78 percent or \$134 billion of the additional economic activity.

Various factors, including export commodity mix, sectoral prices, and volume of goods, contributed to the level of estimated employment required to support 1996's value-added exports. Of the 940,400 full-time civilian jobs related to forest and agricultural value-added exports, more than 116,000 were on U.S. farms. Additionally, 824,000 jobs in the nonfarm sector were directly or indirectly related to the assembling, processing, and distributing of these products for export. About 86,000 of these were in food processing, 57,000 in forestry and mining, 7,000 in textiles, 5,000 in the leather industry, 7,000 in the tobacco manufacturing sector, 119,000 in the lumber and wood industries, 95,000 in the furniture, paper, and printing industries, 125,000 in wholesale and retail trade, 69,000 in transportation, 14,000 in food service, and 163,000 in other services.

Value-added agricultural exports accounted for \$27.7 billion (43 percent of all direct exports) of which \$21.7 billion was processed food. Exports of forest-based processed products were valued at \$28 billion. Paper and printed products exports were worth over \$12 billion, wood and wood furniture exports were \$15 billion, and the gum and wood chemical sector exports were under \$1 billion.

Nonfarm Sector Receives Most Income Effects

Some of the business activity stimulated by foreign trade includes inputs purchased from other sectors. Although \$1 of value-added forest and agricultural exports in 1996 generated \$2.51 in total (direct and supporting) economic activity, \$1 represented income to wage earners, profits, and taxes. Thus, the \$63.9 billion of exports in 1996 generated \$160.6 billion of total economic activity but \$63.9 billion of income in the form of wages, profits, and taxes.

In 1996, 88 percent of total income attributed to high-value exports was returned to the nonfarm sectors, with nonfarm, nonfood sectors of the economy receiving 79 percent. The forest and agriculture services sectors—which include forest nurseries, sap gathering, crop and animal management, and landscaping (but not logging), and which had no direct exports included in this analysis—accrued almost \$2 billion of income from exports. The services, farming, and mining sectors also had no direct exports in this commodity bundle but shared large amounts of the income derived from trade. The service industries shared \$11.5 billion, farming \$8.2 billion, and mining \$1.4 billion. The farm sector received 12 percent of the total income from agricultural exports, while the food processing sector received 9 percent, reflecting the importance of durable manufacturing and its attendant services in this export bill of goods.

This analysis does not include additional spending that may result from higher levels of income associated with agricultural trade. With this additional income earned from exports, U.S. farmers, factory workers, and households can purchase more appliances, farm equipment, building supplies, and other capital and consumer goods. More purchasing power is spread throughout the total economy. The heightened activity, trade, and transportation can boost investment in plants and equipment. Because this analysis does not consider such additional spending, our estimates of the economywide influences of high-value trade are conservative. [William Edmondson, 202-694-5374, wedmonds@econ.ag.gov]